

Appl. No. 09/806,046
Atty. Docket No. CM2108
Amdt. dated 01/18/2005
Reply to Office Action of 09/21/2004
Customer No. 27752

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A chemical entity comprising a ~~chemical component~~ bleaching agent linked to an amino acid sequence comprising a cellulose binding domain characterised in that said amino acid sequence comprising a cellulose binding domain, has a binding constant for crystalline cellulose (Kr-c) of at least 10 l/gcellulose, and/or a binding constant for Avicel (Kr-av) and/or for ~~amorphorous~~ amorphous cellulose (Kr-am) of at least 1.5 l/g cellulose, further wherein:
(a) said cellulose binding domain is from a 43 kilodalton endoglucanase of *Humicola insolens* DSM 1800; and
(b) said bleaching agent is linked to said amino acid sequence comprising a cellulose binding domain via a linking region comprising a polyethylene glycol derivative.
2. (Currently amended) A chemical entity according to claim 1 wherein said amino acid sequence comprising a cellulose binding domain has a binding constant for crystalline cellulose (Kr-c) of at least 20 l/gcellulose, and/or a binding constant for Avicel (Kr-av) and/or for ~~amorphorous~~ amorphous cellulose (Kr-am) of at least 5 l/gcellulose.
3. (canceled)
4. (Withdrawn) A chemical entity according to claim 1 wherein said amino acid sequence comprising a cellulose binding domain has a binding constant for crystalline cellulose (Kr-c) of at least about 10 l/gcellulose and/or having a binding constant for Avicel (Kr-av) and/or for amorphous cellulose (Kr-am) of at least 5 l/gcellulose, is selected from a bacterial strain of Family II, III, or IV.
5. (Withdrawn) A chemical entity according to claim 4 wherein said amino acid sequence comprising a cellulose binding domain is selected from: CBD family 45 from the endoglucanase derived from *Humicola insolens* DSM1800 with a

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molecular weight of about 43kDa, CBD E3 cellulase from *Thermomonospora fusca*, CBD Cellulozome from *Clostridium cellulovorans*, and/or mixtures thereof.

6. (Withdrawn) A chemical entity according to claim 5 wherein the chemical component is linked to said amino acid sequence comprising a cellulose binding domain via a linking region.
7. (Withdrawn) A chemical entity according to claim 6 wherein the linking region is a amino acid linking region.
8. (Withdrawn) A chemical entity according to claim 6 wherein the linking region is a polymer selected from PEG(NPC)2, (NH2)2-PEG, t-BOC-NH-PEG-NH2, MAL-PEG-NHS and/or VS-PEG-NHS polymers.
9. (Currently amended) A chemical entity according to claim 1 wherein said ~~chemical component~~ bleaching agent is linked to said amino acid sequence comprising a cellulose binding domain or to said linking region comprising a polyethylene glycol derivative via a weak bond selected from the group consisting of Schiff-base bonds and beta-amino-ketone bonds.
10. (Canceled)
11. (Previously presented) A laundry detergent and/or fabric care composition comprising a laundry detergent and/or fabric care ingredient and a chemical entity according to claim 1.
12. (Currently amended) A laundry detergent and/or fabric care composition according to claim 11 which is in the form selected from the group consisting of an additive, a pre-treatment, a post-treatment, a soaking treatment, and/or a rinsing treatment composition and combinations thereof.
13. (Currently amended) A method of cleaning comprising the step of contacting a fabric with ~~a chemical entity or with~~ a laundry detergent and/or fabric care composition according to claim ~~[[12]]~~ 11 for providing fabric cleaning including soil removal, ~~[[and]]~~ stain removal, ~~and/or~~ fabric whiteness maintenance, ~~and/or~~ fabric dye transfer inhibition and combinations thereof.

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14. (Currently amended) A method comprising the step of contacting a fabric ~~with a chemical entity or~~ with a laundry detergent and/or fabric care composition according to claim[[s 12]] 11 for providing fabric care ~~including properties selected from the group consisting of~~ anti-wrinkle, anti-bobbling, anti-shrinkage properties to fabrics, fabric softness, fabric freshness, color appearance, [[and]] fabric anti-wear properties and combinations thereof.
15. (Currently amended) A method comprising the step of contacting a fabric with a ~~chemical entity according to or~~ with a laundry detergent and/or fabric care composition according to claim[[s 12]] 11 for providing sanitisation and/or insect control.
16. (New) A chemical entity according to claim 1 wherein the polyethylene glycol derivative is selected from the group consisting of: heterofunctional polyethylene glycol derivatives, polyethylene glycol nucleophilic derivatives, polyethylene glycol carboxyl derivatives, polyethylene glycol electrophilically activated derivatives, polyethylene glycol sulfhydryl-selective derivatives, polyethylene glycol heterofunctional derivatives, polyethylene glycol biotin derivatives, polyethylene glycol vinyl derivatives, polyethylene glycol silane derivatives and polyethylene glycol phospholipid derivatives.
17. (New) A chemical entity according to claim 16 wherein the heterofunctional polyethylene glycol derivative is selected from the group consisting of: PEG-(NPC)₂, PEG-(NH₂)₂, t-BOC-NH-PEG-NH₂, t-BOC-NH-PEG-CO₂NHS, OH-PEG-NH-tBOC, Fmoc-NH-PEG-CO₂NHS and PEG-(NPC)₂.
18. (New) A method of cleaning comprising the step of contacting a fabric with the chemical entity according to claim 1 for providing fabric cleaning selected from the group consisting of soil removal, stain removal, fabric whiteness maintenance, fabric dye transfer inhibition and combinations thereof.
19. (New) A method comprising the step of contacting a fabric with the chemical entity according to claim 1 for providing fabric care properties selected from the group

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consisting of anti-wrinkle, anti-bobbling, anti-shrinkage properties to fabrics, fabric softness, fabric freshness, color appearance, fabric anti-wear properties and combinations thereof.

20. (New) A method comprising the step of contacting a fabric with a chemical entity according to claim 1 for providing sanitisation and/or insect control.
21. (New) A chemical entity according to claim 1 wherein the bleaching agent is selected from the group consisting of hydrophilic bleach activators, hydrophobic bleach activators, metal catalysts, photoactivated bleaches and mixtures thereof.
22. (New) The laundry detergent and/or fabric care composition according to claim 11 further comprising bleaching species selected from the group consisting of hydrogen peroxide, PB1, PB4, percarbonate and mixtures thereof.
23. (New) The laundry detergent and/or fabric care composition according to claim 11 wherein said chemical entity is present at a level from 0.00001% to 50% by weight of the total composition.